

### Abstract

A reflector (5) for X-ray radiation (2, 3, 10, 11) which is curved in a non-circular arc shape, along a first cross-section (13) in a plane (XZ) which contains a x-direction, wherein the reflector (5) is also curved along a second cross-section (14) in a plane (YZ) which is perpendicular to the x-direction, is characterized in that the reflector (5) has a curvature along the second cross-section (14) which also differs from the shape of a circular arc. This makes the design of X-ray mirrors and the beam profile of reflected X-ray radiation more flexible, facilitates production of X-ray mirrors and at the same time provides high reflection capacity and good focusing properties for X-ray mirrors.